

attention, ecology, regional variation, geographical distribution with all its implications, phase variation, physiology, embryology, and the immense development of applied Entomology. Russian names have now stepped into the foremost place, but this is hardly surprising, for the population of the U.S.S.R., both human and orthopterous, justifies the lead.

In our country, I am glad to say, is centred the international war upon the Locust, and it is not by mere chance that the Chief of Staff is a Russian, my old friend Dr B. P. Uvarov, who has put not only combined action against that plague but the study of the Orthoptera generally upon a modern basis.

Another entomologist who among us is welcome from abroad is Dr F. Zeuner, formerly of Freiburg i. Br. He has given us remarkable work upon the fossil Orthoptera, of which far more is known than generally realised. Zeuner's proposed classification of the Orthoptera is revolutionary and to my mind very satisfying, for he has put into precise expression notions that have been inarticulate in my head almost all my life. At the moment he has diverged into the detailed study of the Pleistocene climate, in search of important light upon the history of the Orthoptera fauna of our Region.

PROGRESS IN OUR KNOWLEDGE OF BRITISH COLEOPTERA, ANTS, AND MYRMECOPHILES

During the 50 years of the "Entomologist's Record and Journal of Variation."

By HORACE DONISTHORPE, F.Z.S., F.R.E.S., etc.

The difficulty in an article of this kind is to know what to select, and what to leave out. The subject is vast, the progress has been great, and the *Record* has had no mean share in the results.

I have always taken a great interest in the *Record* and the late J. W. Tutt, the founder, was a great friend of mine. Although many other people had helped him with the *Record*, when he honoured me by asking me to become a sub-editor in 1897 (Editor for Coleoptera), I was very pleased. My name was the first to appear as such, and I am proud to think it is still present on the panel in company with the distinguished and talented sub-editors we now possess.

It may be as well to divide this article into two sections:—Coleoptera; and Ants and Myrmecophiles.

COLEOPTERA.

Fowler's great work on the *Coleoptera of the British Isles* had come into existence before the *Record* was started—on April 15th, 1890—but the last two volumes, 4 and 5, were published after this date. There is no doubt whatever that this work has had more influence on the progress of our science, and attracted more entomologists than any other during our time, or before. It may be out of date and its chief fault to my mind is the omission of the references to the original descriptions; but apart from this I still prefer to work with "Fowler," unless I am using Reitter, Ganglbauer, or other foreign works. In the Supplement to Fowler (1913), and the "Annotated List of the Additions to the British Coleopterous Fauna" (1931) the work is brought up to those

dates, and references to the original descriptions are given.

There have been 3 Catalogues of British Coleoptera published during our period—Sharp & Fowler (1893), Beare & Donisthorpe (1904), and Beare (1930). I have been told that the 1904 was the best, though perhaps I should not mention it; but of course it is quite out of date now. Moreover, none of our catalogues are such in the true sense of the word; only lists. When shall we have a proper catalogue with dates, references, etc., to the species? What a chance was missed during the centenary meetings, etc., of the Royal Entomological Society of London, when such a one might have been published!

Of the more popular books of our time on British beetles I give the palm to the late W. E. Sharp's *Common Beetles of our Countryside* (1915). I read with some pride on the fly-leaf of my copy, presented to me by the author—"To H. St J. Donisthorpe (without whose initiative this book would not have existed), from his old friend. The Author, January 1916." Of the more pretentious works, Joy's *A Practical Handbook of British Coleoptera* stands out. Personally, however, I am unable to use it. The best review I have read of this book was by a Dane who wrote—"With Dr Joy's book one can name some beetles correctly, some incorrectly, and some not at all!" To mention the Coleopterists who have gone before in our time, and who have helped to advance the study of our British Coleoptera one must first mention G. C. Champion, the Rev. Canon W. W. Fowler, and Dr David Sharp. Most of the "old guard" have passed away now, though fortunately we still have our genial Commander Walker with us.

I give a list, as an appendix (A) of all those entomologists who have died in the last 50 years, and who did what they could to add to the knowledge of our subject. It were invidious to mention those still with us, but it is a pity there are not more younger men taking up our study. Of the Coleopterists on the Continent who have gone, and whose influence has been most felt by us, one may mention Bedell, Deville, Fauvel, Ganglbauer, and Reitter. Especially the late Sainte Claire Deville—there is no one like him now to whom one can send general Coleoptera to be named. The rest are too specialised, and many groups of Coleoptera are not worked at all.

Two great Catalogues—catalogues in the true sense of the word—Winkler's Palaeartic Coleoptera, and Junk's enormous work which is still being published and includes the work of all the eminent Continental Coleopterists, are of the greatest service to us. Local lists and County lists have been, and are being, published for all over the British Isles. Also two exchange lists were published. One, "A New Exchange List of British Coleoptera," by W. H. Bennett. Published at Hastings, I do not know the date, but it was a complete list of the beetles as known at that time and was clearly printed and very useful. The other, a more pretentious effort, "An Exchange List of British Coleoptera," by E. A. Newbery and W. E. Sharp, printed by J. H. Keys at Plymouth (1915). This was the first endeavour to bring the British Coleoptera in line with the European Catalogue of 1906. Finally we may mention that very many species have been, and are still being added to the British list by a small band of enthusiastic collectors. Just as an illustration for part of the 50 years; the 1904 Catalogue listed 3361 species, and that of 1930, 3566 species.

ANTS AND MYRMECOPHILES.

Our knowledge of the British *Formicidae* is now in a most satisfactory condition, and this I attribute largely to the fact that many of the greatest myrmecologists of all time were alive during our period.

The late Frederick Smith, who, however, was not of our time, as he died in 1879, had prepared the way. In spite of many criticisms on his taxonomical work, his observations on the habits, etc., of ants in this country are excellent.

Sir John Lubbock (1st Lord Avebury), who did not commence his study of ants until he was 40 years of age, and whose admirable works are so well known, stands alone as a pioneer among British Myrmecologists. His drawings of the nerves, muscles, and general anatomy of ants, are among the most beautiful I have ever seen. Also his construction of observation nests, his study of ants in captivity, and their habits in general, gave a tremendous impetus to this subject.

The great Continental and American Myrmecologists, Emery, Forel, Janet, Wheeler, and Wasmann, have all passed away comparatively recently, but we have been able to benefit fully by the enormous amount of valuable work they accomplished. One must not forget to mention that Emery completed his great work on ants in the *Genera Insectorum* before he died. It is thus fortunate that in taxonomy, anatomy, synonymy, and nomenclature in general, terminology, etc., etc., the *Formicidae* are in a far better position, and in more general agreement, than is the case in most of the other families of insects.

Two small popular books, Farren White's *Ants and their Ways* (2nd edition, 1895) and William Kirby's *Marvels of Ant Life* (1898), both admirable in their way, undoubtedly did much to popularise the subject. The ant fauna of the British Isles is a very poor one, and in the last 50 years, only five new species and a few new varieties have been added; moreover, it is not very likely that many, or indeed any, others will be discovered. The county distribution of our known species of ants, however, may well be added to.

The late E. W. Janson was the father of the study of British Myrmecophilous Coleoptera, and with the vast contributions by Wasmann on all creatures found with ants, a great deal is known on this most fascinating sideline in the study of the *Formicidae*. There is much, however, still to be discovered, and if any more entomologists, either young or older, were to take it up, they would be well repaid.

Finally, I may mention that in my *British Ants*, 1st edition (1915), 2nd edition (1927), and my *Guests of British Ants* (1927), I have endeavoured to bring all the known facts together on the most interesting of all insects. There is also as complete a Bibliography as I could find, in both books.

I give a similar list as an appendix (B) to that given for the section on Coleoptera.

APPENDIX A.

- | | |
|----------------------------|---------------------------|
| Atmore, E. A. (1930). | Bowhill, J. W. (1931). |
| Bates, F. (1903). | Bowring, J. C. (1893). |
| Bennett, W. H. (1931). | Butler, E. A. (1925). |
| Billups, J. R. (1920). | Champion, G. C. (1927). |
| Bishop, J. G. (1922). | Chapman, Dr T. A. (1922). |
| Black, J. E. (1925). | Chaster, G. W. (1910). |
| Blackburn, Rev. J. (1912). | Chitty, A. J. (1908). |
| Blenkarn, S. A. (1927). | Crawshaw, Rev. G. (1920). |

- | | |
|---|---|
| <p>Cruttwell, Rev. Canon C. J. (1911).
 Dollman, H. C. (1919).
 Edwards, J. (1928).
 Elliott, E. A. (1936).
 Fowler, Rev. Canon W. W. (1923).
 Fryer, H. F. (1930).
 Garde, P. de la (1913).
 Gardner, G. (1921).
 Gillo, R. (1891).
 Gorham, Rev. H. S. (1920).
 Hardy, J. (1899).
 Harris, J. T. (1892).
 Harwood, B. S. (1933).
 Holland, W. (1930).
 Janson, E. W. (1891).
 Janson, O. (1927).
 Jenner, F. H. A. (1924).
 Johnson, W. F. (1934).
 King, J. J. F. X. (1933).
 Leman, G. C. (1934).</p> | <p>Lewis, G. (1926).
 Mason, P. B. (1904).
 Matthews, Rev. A. (1897).
 Newbery, E. A. (1928).
 Piffard, A. (1910).
 Routledge, G. B. (1934).
 Saunders, E. (1910).
 Sharp, Dr D. (1922).
 Sharp, W. E. (1919).
 Stevens, G. (1899).
 Stott, C. E. (1935).
 Taylor, J. (1920).
 Taylor, J. K. (1923).
 Thompson, M. L. (1934).
 Waterhouse, C. O. (1917).
 Waterhouse, E. A. (1916).
 West, W. (1918).
 Wood, Rev. Canon J. (1924).
 Young, Morris (1897).</p> |
|---|---|

APPENDIX B.

- | | |
|--|---|
| <p>Bignell, C. G. (1910).
 Bingham, Col. C. J. (1908).
 Champion, G. C. (1927).
 Chapman, Dr T. A. (1922).
 Chitty, A. J. (1908).
 Collett, E. P. (1937).
 Dale, C. W. (1906).
 Douglass, J. W. (1905).
 Evans, W. (1923).
 Fowler, Rev. Canon W. W. (1923).
 Frisby, G. E. (1936).
 Janson, E. W. (1891).</p> | <p>Kirby, W. F. (1912).
 Lubbock, Sir John (1st Lord Avebury
 (1913).
 Michael, A. D. (1927).
 Morice, Rev. F. D. (1926).
 Rayward, A. L. (1935).
 Rothney, G. A. J. (1922).
 Saunders, E. (1910).
 Silverlock, O. C. (?).
 Step, E. (1932).
 Theobald, F. V. (1930).
 White, F. Buchanan (1894).</p> |
|--|---|

DIPTERA: PROGRESS AND OBSTACLES TO PROGRESS, 1890-1938.

By J. E. COLLIN, F.R.E.S.

If the state of our knowledge of the Palaearctic Diptera in 1938 be compared with that in 1890, when the first number of this magazine was published, one cannot fail to realise the enormous advance that has been made, not only in the number of described species, but also in their classification. The publication in 1903-07 of Kertész's Catalogue of the Palaearctic Diptera was undoubtedly a great stimulus to students of the Order, but even at that time, and still more in 1890, many families possessed only a skeleton framework of the genera and species now known to exist, others (chiefly those composed of the larger more conspicuous species) were more complete, but in the last half century all have received attention from competent taxonomists, and very much more is known about their true specific and generic characters. It has become increasingly evident that many of the more reliable characters are often microscopic or borne by parts normally more or less hidden, and the study of these characters with the resultant discovery of many unsuspected affinities and new species, has been one of the outstanding features of the period under discussion. It has become more than ever essential that, before describing any species, one should take the trouble to discover the characters one ought to describe.

The Diptera are no exception to the rule that some genera and species stand out isolated while others exhibit a gradually descending